

$$65. \frac{1}{m^2 + m - 2} - \frac{3}{2m^2 + 3m - 2} + \frac{2}{2m^2 - 3m + 1}$$

$$(m+2)(m-1)$$

find the LCD

$$(2m-1)(m+2)$$

$$(2m-1)(m-1)$$

$$\boxed{LCD = (m+2)(m-1)(2m-1)}$$

$$\frac{(x-2) \cdot 6}{(x-2)(2x+1)} - \frac{(2x+1) \cdot 8}{(2x+1)(x-2)} + \frac{x^2+x}{(2x+1)(x-2)}$$

$$\frac{6x-12}{(2x+1)(x-2)} + \frac{-16x+8}{(2x+1)(x-2)} + \frac{x^2+x}{(2x+1)(x-2)}$$

$$\frac{x^2 - 9x - 20}{(2x+1)(x-2)} \rightarrow \frac{(x-10)(x+2)}{(2x+1)(x-2)}$$

11.3 2 days → 1 assignment

Complex fractions

$$\frac{\frac{1}{3} + \frac{1}{2}}{\frac{2}{3} + \frac{1}{4}}$$

- ① Goal ^① add fractions
- ② goal ^② → wipe out fraction

Simplif

$$\textcircled{1} \frac{1 \cdot 2}{3 \cdot 2} + \frac{1 \cdot 3}{2 \cdot 3}$$

$$\frac{2}{6} + \frac{3}{6}$$

$$\frac{5}{6}$$

① adding fractions

$$\textcircled{2} \frac{2 \cdot 4}{3 \cdot 4} + \frac{1 \cdot 3}{4 \cdot 3}$$

$$\frac{8}{12} + \frac{3}{12}$$

$$\frac{11}{12}$$

$$\frac{5}{6} \div \frac{11}{12}$$

$$\frac{5}{6} \cdot \frac{12^2}{11} \rightarrow \frac{10}{11}$$

$$\frac{2}{1} \times \frac{1}{3} - \frac{6}{12} = \frac{0}{11}$$

wipe out
fractions

$$2x - 3 = 36$$

$$\frac{12}{1} \frac{1}{3} + \frac{1}{2} \frac{12}{1}$$

$$\overset{4}{\frac{12}{1}} \frac{2}{3} + \frac{1}{4} \frac{12}{1}$$

$$\frac{4 + 6}{8 + 3}$$

$$\frac{10}{11}$$

② wipe out fractions

$$LCD = 12$$

$$\frac{31}{35} + \frac{25}{35} \rightarrow \frac{3}{5} + \frac{10}{15} \rightarrow \frac{13}{15}$$

① add fractions

$$\frac{51}{52} - \frac{22}{52} \rightarrow \frac{5}{10} - \frac{4}{10} \rightarrow \frac{1}{10}$$

$$\frac{13}{35} + \frac{2}{10} \rightarrow \frac{26}{35}$$

$$\frac{30}{1} \frac{1}{5} + \frac{2 \frac{30}{10}}{8 \frac{1}{1}}$$

$$\frac{30}{1} \frac{1}{2} - \frac{2 \frac{30}{6}}{8 \frac{1}{1}}$$

$$\frac{6 + 20}{15 - 12}$$

$$\frac{26}{3}$$

② wipe out
fractions
LCD

$$\textcircled{1} \frac{2}{2x \cdot 15x} - \frac{3 \cdot 3}{10x^2 \cdot 3} \quad \frac{4x}{30x^2} + \frac{-9}{30x^2} \quad \textcircled{1} \text{ add } \frac{4x-9}{30x^2}$$

$$\textcircled{2} \frac{x}{2x5} + \frac{3}{10x} \quad \frac{x}{10x} + \frac{3}{10x} \rightarrow \frac{2x+3}{10x}$$

$$\left(\frac{4x-9}{3 \cancel{30x^2}} \right) \cdot \left(\frac{\cancel{10x}}{2x+3} \right) \rightarrow \frac{4x-9}{3x(2x+3)}$$

$$\frac{2}{\cancel{3x}^2} \cdot \frac{2}{1 \cdot \cancel{15x}} - \frac{3}{\cancel{10x}^2} \cdot \frac{3}{\cancel{30x}^2} \cdot 1$$

$$\frac{\cancel{4}^2}{\cancel{30x}^2} \cdot \frac{1}{1 \cdot \cancel{8}} + \frac{\cancel{3}}{\cancel{10x}} \cdot \frac{\cancel{30x}^2}{1}$$

② wipe out
fraction
LCD = $30x^2$

$$\frac{4x - 9}{6x^2 + 9x} \rightarrow \frac{4x - 9}{3x(2x + 3)}$$

$$16. \frac{\frac{1}{x+1} - 1}{\frac{1}{x-1} + 1}$$

$\frac{(x-1)(x+1)}{1} \cdot \frac{1}{x+1} - 1 \cdot \frac{(x-1)(x+1)}{1}$

$$\text{LCD} = \frac{(x-1)(x+1)}{1}$$

$$\frac{(x-1) - (x-1)(x+1)}{(x+1) + (x-1)(x+1)} \rightarrow \frac{x-1 + (x^2+1)}{x+1 + (x^2+1)}$$

$$\rightarrow \frac{-x^2+x}{x^2+x} \rightarrow \frac{x(-x+1)}{x(x+1)}$$

$$\frac{3+1}{4+1} \Rightarrow \frac{4}{5}$$

$$\frac{2}{15x} - \frac{3}{10x^2}$$